



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,638	03/01/2004	James H. Werner	S-100,565	9767

35068 7590 03/08/2007
LOS ALAMOS NATIONAL SECURITY, LLC
LOS ALAMOS NATIONAL LABORATORY
PPO. BOX 1663, LC/IP, MS A187
LOS ALAMOS, NM 87545

EXAMINER

GEISEL, KARA E

ART UNIT	PAPER NUMBER
----------	--------------

2877

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/790,638	WERNER ET AL.	
	Examiner	Art Unit	
	Kara E. Geisel	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-7, drawn to an apparatus for measuring a fluorescent sample, classified in class 356, subclass 417.
- II. Claims 8-15, drawn to a method of detecting a binding event between biomolecules using a trifunctional linker molecule, classified in class 435, subclass 6.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the process of group II can be practiced with any fluorescent measuring device, including a spectrometer, and not just a measurement device of group I that has filters for measurement.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Bruce Cottrell on February 6th, 2007 a provisional election was made with traverse to prosecute the invention of group I, claims 1-7. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-15 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2877

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationships between the light source, the objective, the two detectors, the two filters, the substrate and the support having a pinhole.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Swanson et al. (US Pubs 2004/0171175).

In regards to claim 1, Swanson discloses an apparatus (fig. 2) comprising: a light source (205); an objective (210); a first detector means for detecting light of a first defined wavelength range (220); a second detector means for detecting light of a second defined wavelength range (215); a first filter means for filtering light of a third defined wavelength range (225 and ¶ 34); a second filter means for filtering light of a fourth defined wavelength range (230 and ¶ 34); a support (232) having a pinhole therein (235) through which collected light from said objective is preferentially passed to said first detector means and said second detector means as opposed to out of focus scattered light (¶ 35); and a transparent substrate (240) for support of a sample under investigation (245), said sample comprising membrane vesicles including a trifunctional linker molecule including a fluorophore (¶ 22).

Art Unit: 2877

In regards to claim 2, the objective is a converging lens (§ 32).

In regards to claim 3, said first filter means and said second filter means are dichroic mirrors (§ 34).

In regards to claim 4, said first filter means is a longpass optical filter reflecting excitation wavelengths and passing fluorescence emission wavelengths and said second filter means spectrally resolves said fluorescence emission wavelengths (§ 34).

In regards to claim 5, said first dichroic mirror reflects wavelengths below 500 nm and passes wavelengths above 500 nm and said second dichroic mirror reflects wavelengths below 550 nm and passes wavelengths above 550 nm (§ 34).

In regards to claim 6, the transparent substrate is of glass (fig. 2, glass coverslip).

In regards to claim 7, the apparatus is characterized as having a single detection channel (fig. 2, the detection channel being from the sample 245, to the detectors 215-220).

Additional Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record is Haydon (USPN 5,874,726), Kauvar et al. (USPN 6,444,992), Swanson et al. (USPN 6,893,814), Osipchuk et al. (US Pubs 2001/0048082), Engelhardt et al. (US Pubs 2002/0180965), Cai et al. (US Pubs 2006/0008799), and Wolf et al. (US Pubs 2004/0080750).

Haydon, and Osipchuk disclose an apparatus comprising: a light source; an objective; a first detector means for detecting light of a first defined wavelength range; a second detector means for detecting light of a second defined wavelength range; a first filter means for filtering light of a third defined wavelength range; a second filter means for filtering light of a fourth defined wavelength range; a support having a pinhole therein through which collected light from said objective is preferentially passed to said first detector means and said second detector means as opposed to out of focus scattered light; and a transparent substrate for support of a sample under investigation.

Art Unit: 2877

Kauvar, and Engelhardt disclose an apparatus comprising: a light source; an objective; a first detector means for detecting light of a first defined wavelength range; a second detector means for detecting light of a second defined wavelength range; a first filter means for filtering light of a third defined wavelength range; a second filter means for filtering light of a fourth defined wavelength range; and a transparent substrate for support of a sample under investigation.

Swanson discloses the ultrasensitive detection of a sample wherein the sample comprises a trifunctional linker molecule including a fluorophore.

Cai discloses an apparatus comprising: a light source; an objective; a first detector means for detecting light of a first defined wavelength range; a second detector means for detecting light of a second defined wavelength range; a first filter means for filtering light of a third defined wavelength range; a second filter means for filtering light of a fourth defined wavelength range; a support having a pinhole therein through which collected light from said objective is preferentially passed to said first detector means and said second detector means as opposed to out of focus scattered light; and a substrate for support of a sample under investigation.

Wolf discloses an apparatus comprising: a light source; an objective; a first detector means for detecting light of a first defined wavelength range; a second detector means for detecting light of a second defined wavelength range; a first filter means for filtering light of a third defined wavelength range; a second filter means for filtering light of a fourth defined wavelength range; and a support having a pinhole therein through which collected light from said objective is preferentially passed to said first detector means and said second detector means as opposed to out of focus scattered light.

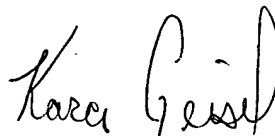
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

Art Unit: 2877

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800 ext. 77**. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kara E. Geisel
Art Unit 2877

February 12, 2007